



KODNEST

Final Product Requirements Document

KodNestCareers

One Placement Platform for Discovery, Readiness, and Resume Excellence

Confidential - Final Client Sign-off Version

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This PRD follows standard IT industry structure for product engineering delivery and includes module-level and suite-level requirements end-to-end.

1. Executive Summary

KodNestCareers is a unified placement platform that combines Job Notification Tracker, Placement Readiness Platform, and AI Resume Builder into one integrated product. The platform addresses fragmented student workflows by connecting opportunity discovery, role-specific preparation, and ATS-ready resume generation. This final PRD defines product scope, architecture, requirements, quality gates, and production rollout criteria.

2. Problem Statements by Module

2.1 Job Notification Tracker

Students miss high-value opportunities because listings are scattered, duplicates are common, and notifications are not personalized.

2.2 Placement Readiness Platform

Students often enter interview rounds without a role-aligned preparation framework and lack round-specific readiness tracking.

2.3 AI Resume Builder

Student resumes are frequently rejected early due to poor ATS structure, weak relevance mapping, and inconsistent formatting.

2.4 Unified Suite

Using disconnected tools causes context loss and duplicate effort, which lowers application-to-interview conversion.

3. Market Research: What Exists, What Is Broken, What Is Missing

Category	What Exists	What Is Broken	What Is Missing	KodNestCareers Position
Job discovery	Generic job portals and social channels	Signal-to-noise is low and alerts are not student-context aware	Profile-fit ranking and stage-aware alerts	Relevance-ranked opportunities with trackable lifecycle
Interview prep	Scattered question banks and videos	No role-linked prep sequencing and poor completion visibility	JD-driven round mapping and task orchestration	Role-specific prep plans and readiness scoring
Resume tools	Template sites and generic AI text tools	Outputs are inconsistent for ATS and role relevance	Integrated ATS scoring with guided fixes	Live preview, role-aware suggestions, and export quality control
Integrated workflow	Multiple disconnected point tools	Context switching and duplicated data entry	Single-source profile and shared decision context	One platform linking job, prep, and resume modules

4. System Architecture

KodNestCareers uses a modular service architecture with a shared profile and event model. Core components include Web UI, API Gateway, Auth Service, Job Ingestion Engine, Matching Engine, Resume Engine, Readiness Engine, Notification Service, Analytics Pipeline, and Observability stack.

Layer	Components	Responsibility
Experience	Web app, Dashboard, Module pages	Unified user journeys and interaction model
Application	API Gateway, Auth, Orchestration	Business rules, permissions, cross-module context
Domain Engines	Ingestion, Matching, Resume, Readiness, Notification	Module-specific processing and recommendations

Layer	Components	Responsibility
Data	Relational DB, Queue/Event Bus, Object Storage	Persistence, asynchronous execution, artifacts
Ops	Logging, Metrics, Alerts, CI/CD	Reliability, release controls, operational governance

5. High-Level Design (HLD)

- Job Notification Tracker HLD: source connectors, parsing pipeline, de-dup service, relevance scoring, notification scheduling.
- Placement Readiness HLD: JD analyzer, round mapper, checklist generator, readiness scoring, progress tracker.
- AI Resume Builder HLD: form engine, template selector, ATS scoring service, live preview renderer, PDF export service.
- Suite HLD: unified dashboard, shared navigation, shared user profile service, event-driven module synchronization.

6. Low-Level Design (LLD)

Module	Core LLD Elements
Job Notification Tracker	Data models: JobPosting, SourceRun, JobMatch, JobTracking. Scheduler cadence controls. Notification template variables and digest grouping rules.
Placement Readiness	Data models: PrepPlan, PrepTask, RoundMap. Rule engine for competency extraction and round-level checklist logic.
AI Resume Builder	Data models: Resume, ResumeSection, ATSAssessment. Field validators, scoring heuristics, and real-time preview composition.
Unified Suite	State management for shared profile, auth tokens, and context propagation from selected jobs to resume/prep modules.

7. Functional Requirements (FR)

Priority scale: P0 critical, P1 high, P2 medium.

7.1 Platform and Identity

ID	Requirement	Priority	Acceptance Gate
FR-001	User registration and login with secure session management	P0	Authenticated users can access role-specific views
FR-002	Role-based access control for student and admin	P0	Unauthorized route access is blocked with audit log entry
FR-003	Password reset and account recovery flow	P1	Recovery link flow verified and token expiry enforced
FR-004	Profile management with skill taxonomy support	P1	Profile updates persist and update recommendation models

7.2 Job Notification Tracker

ID	Requirement	Priority	Acceptance Gate
FR-101	Scheduled job ingestion from configured sources	P0	Pipeline executes on schedule and ingests source payloads
FR-102	Parse and normalize into canonical schema	P0	All required fields pass schema validation
FR-103	Duplicate detection with source and similarity checks	P0	Duplicate rate below threshold in nightly batch
FR-104	Relevance scoring by skills, role, location, recency	P0	Top feed precision target met in pilot
FR-105	Notification rules: instant, daily digest, weekly digest	P1	User preference rules govern send cadence
FR-106	Email template personalization with merge variables	P1	Delivered templates render without unresolved placeholders
FR-107	Job state tracking: new, saved, applied, archived	P1	State transitions logged and visible in dashboard
FR-108	Admin source management interface	P2	Admin can enable, disable, and monitor source connectors

7.3 Placement Readiness Platform

ID	Requirement	Priority	Acceptance Gate
FR-201	JD ingestion and text extraction	P0	Supported formats parsed with minimum extraction quality
FR-202	Requirement extraction for skills and expectations	P0	Key competency clusters identified per JD
FR-203	Round mapping across aptitude/coding/technical/HR	P0	Checklist includes at least four round categories
FR-204	Personalized prep checklist generation	P1	Checklist aligns with role and user profile context
FR-205	Checklist task progress tracking	P1	Task completion updates readiness score in near-real time
FR-206	Role-wise content recommendations	P1	Recommended content mapped to identified gap areas
FR-207	Calendar export for prep milestones	P2	Milestones export in standard calendar format

7.4 AI Resume Builder

ID	Requirement	Priority	Acceptance Gate
FR-301	Multi-step resume form engine	P0	All mandatory fields validated before publish/export
FR-302	Template selection with ATS-friendly layout rules	P0	Templates preserve readability and parseability
FR-303	Live preview rendering	P0	Preview updates within target interaction latency

ID	Requirement	Priority	Acceptance Gate
FR-304	ATS score and improvement recommendations	P0	Score plus actionable guidance generated
FR-305	Job-aware resume customization suggestions	P1	Suggestions reference selected job requirements
FR-306	PDF export and download	P1	Downloaded PDF matches preview and passes visual checks
FR-307	Version history and resume variants	P2	User can retrieve prior versions without data loss

7.5 Complete Placement Suite Integration

ID	Requirement	Priority	Acceptance Gate
FR-401	Shared profile service consumed by all modules	P0	Single profile source of truth across product
FR-402	Selected job context propagated to resume and prep modules	P0	Cross-module context auto-binds in one session
FR-403	Unified dashboard for jobs, prep, and resume readiness	P1	Dashboard status reflects latest module events
FR-404	Event logging for funnel analytics	P1	Events captured with schema and traceability guarantees

8. Non-Functional Requirements (NFR)

ID	Category	Requirement
NFR-001	Performance	P95 API response under 800 ms for standard read operations
NFR-002	Performance	Ingestion pipeline handles 10,000 records per run within 20 minutes
NFR-003	Performance	Resume PDF generation under 5 seconds for standard templates
NFR-004	Availability	Monthly production availability target 99.5 percent
NFR-005	Reliability	Retry and dead-letter handling for failed asynchronous operations
NFR-006	Reliability	Idempotent processing for scheduled jobs and notifications
NFR-007	Security	TLS 1.2+ encryption for all data in transit
NFR-008	Security	Encryption at rest for sensitive user and profile data
NFR-009	Security	Adaptive password hashing and credential protection controls
NFR-010	Security	Audit logging for privileged actions and auth events
NFR-011	Privacy	Retention and profile visibility controls aligned to policy
NFR-012	Scalability	Horizontal scaling support for workers and stateless APIs
NFR-013	Scalability	Queue-based asynchronous execution for background workloads
NFR-014	Accessibility	WCAG 2.1 AA conformance for critical user journeys
NFR-015	Usability	Responsive behavior across desktop and mobile web

9. Data Model and Integration Contracts

Core entities

- User, Profile, Skill, Preference
- JobPosting, JobMatch, JobTracking
- Resume, ResumeSection, ATSAssessment
- PrepPlan, PrepTask, RoundMap, ReadinessScore
- Notification, EventLog, AuditLog

Key integration contracts

- Profile API: canonical profile read/write for all modules.
- Job Context API: selected job payload contract for downstream module consumption.
- Recommendation API: rank and explanation payload for transparency.
- Notification API: templated message dispatch with delivery status callback.

10. Build It Plan (Implementation and Release)

Phase	Duration	Delivery Scope	Exit Criteria
Phase 1 (MVP)	10 weeks	Core auth, dashboard shell, job tracker baseline, resume baseline, readiness baseline	End-to-end user journeys working in UAT
Phase 2 (Scale)	8 weeks	Ranking tuning, richer ATS guidance, reliability hardening, admin reporting	Pilot metrics and NFR checks pass
Phase 3 (Optimize)	8 weeks	Advanced personalization, additional source connectors, analytics enrichment	Production KPI targets achieved

11. Test and Debug Plan

Test Layer	Coverage Goal	Examples
Unit	Core logic coverage >= 80%	Parser rules, scoring functions, checklist logic, template rendering
Integration	Critical workflows	Job context propagation, notification pipeline, ATS scoring integration
E2E	Primary journeys	Discover -> Save -> Tailor Resume -> Export, and Save -> Prep Plan -> Readiness updates
Performance	NFR validation	Ingestion throughput, API latency, PDF generation time
Security	OWASP and auth controls	Session hardening, RBAC checks, audit trail validation
UAT	Stakeholder acceptance	Student and TPO cohort scenario walkthroughs

12. Deploy It Plan (Production Operations)

- CI/CD pipeline gates: lint, unit tests, integration tests, security checks, and artifact versioning.
- Environment strategy: Dev -> QA -> UAT -> Production with change approval checkpoints.

- Deployment model: rolling deploy for APIs and worker pools with health check based cutover.
- Operational readiness: dashboards, alerts, on-call runbooks, and rollback procedures.
- Backup and recovery: scheduled snapshots with periodic restore drills.

13. Security, Privacy, and Compliance

- Role-based authorization and least-privilege controls across admin functions.
- PII minimization in logs and analytics exports.
- Encryption standards for in-transit and at-rest data.
- Consent and retention controls for student profile data.
- Incident response process with defined severity and communication workflow.

14. Metrics, Analytics, and Reporting

Category	Metric	Target
Adoption	Monthly active students	>= 70% of onboarded cohort
Job Funnel	Qualified applications per student	+30% vs baseline
Interview Funnel	Shortlist conversion	+20% vs baseline
Preparation	Checklist completion before interviews	>= 70%
Resume Quality	ATS score uplift	Median +15 points post onboarding
Operations	Notification delivery success	>= 98% successful sends

15. Risks and Mitigations

- Connector failures due to external site changes; mitigate with adapter abstraction and monitoring.
- Low early recommendation quality; mitigate with rule baseline plus iterative model calibration.
- Inconsistent AI content quality; mitigate with guardrails, editable outputs, and template fallback.
- Adoption friction; mitigate with guided onboarding and contextual nudges.
- Notification fatigue; mitigate with preference controls and digest optimization.

16. Acceptance Criteria

- Users receive relevant job alerts aligned to profile preferences.
- Selecting a job automatically pre-contextualizes resume and readiness modules.
- Resume export produces production-ready PDF with no layout defects.
- JD analysis returns actionable checklist spanning at least four interview round categories.
- Unified dashboard reflects synchronized module state within one active session.
- NFR performance, reliability, and security acceptance gates pass in pre-production.

17. Out of Scope

- Native mobile applications in initial release.
- Automated application submission to third-party job portals.
- Deep campus ERP integrations beyond standard exports.
- Real-time collaborative resume editing in v1.

18. Assumptions, Dependencies, and Open Questions

Assumptions and dependencies

- Reliable access to approved job data sources.
- Email provider throughput suitable for peak campaigns.
- LLM or rule engine availability for JD and content generation components.
- Institutional support for pilot and UAT cohorts.

Open questions

- Mandatory launch geography and source list for first production release.
- Default notification cadence for newly onboarded students.
- Minimum ATS benchmark by role family for success scoring.
- Extent of coordinator intervention rights over student prep plans.

19. Final Sign-off

Role	Name	Signature	Date
Product Manager			
Engineering Lead			
QA Lead			
Security Lead			
Client Stakeholder			

This document is the final baseline for product build, validation, and release governance for KodNestCareers.